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EXAMINER

ROSE, KERRI M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/808,811	Applicant(s) TANAKA ET AL.	
	Examiner KERRI M. ROSE	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 16, 18-21, 23, 24, 35, 36, 38-40 and 42-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 16, 18-21, 23, 24, 35, 36, 38-40 and 42-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 17, filed 12/14/07, with respect to the rejection(s) of claim(s) 15-24 and 35-39 under 102 and 103 have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a closer reading of McFarland, which reveals the inclusion of both an offset and a length. Taken together McFarland discloses cutting data for retransmission, i.e. the data beginning at the offset and ending at the length.

2. Applicant's arguments filed 12/14/07, with respect to claims 40 and 42-44 have been fully considered but they are not persuasive. Page 18 argues that claim 40 should be allowable because Rathonyi merges consecutive packets and uses just one sequence number. However, in the same cited passage, Rathonyi also states that non-consecutive packets retain their respective sequence numbers.

Claim Objections

3. Applicant is advised that should claim 47 be found allowable, claim 48 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 40, 42-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Rathonyi et al. (US 6,359,877).

6. In regards to claim 40, Rathonyi discloses a buffer (col. 8 lines 28-29); deciding a modulation parameter based upon conditions of the propagation path (col. 7 lines 37-44 [packet size, rate, or sequence numbering may be changed]); and deleting a packet that has been successfully transmitted (inherent because buffer space is not infinite) or retransmitting a packet for which reception has failed (col. 9 line 62 – col. 10 line 3 and col. 10 lines 18-30). Rathonyi discloses retransmitting a plurality of packets as a single transmission with respective identifying information (col. 10 lines 18-30 and 57-67; If retransmitted packets are consecutive they can be combined and use one sequence number. However, if they were not consecutive they retain their individual sequence numbers.).

7. In regards to claim 42, Rathonyi discloses retransmitting part of a packet (col. 9 line 62 – col. 10 line 3).

8. Claims 43 and 44 are rejected upon the same grounds as claims 40 and 42 respectively.

9. Claims 45, 47-49, 51, and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue (JP H11-215192).

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10. In regards to claim 45, Inoue discloses a transmitting apparatus (fig. 1 discloses the system of transmitters and receivers) capable of executing retransmission of packet data when the packet data cannot be received correctly on a receiving side, said transmitting apparatus comprising: a transmission parameter controller which changes a transmission parameter in accordance with the conditions of the propagation path (Paragraph 24 indicates changes in path condition are taken in consideration when determining transmission rate); and a controller which obtains a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter, wherein each of the plurality of the divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3 illustrates resending packet 5 divided into three smaller portions. Paragraph 21 indicates the divided packets retain the same sequence number.)

11. In regards to claims 47 and 48, Inoue discloses a transmitting method in a transmitting apparatus (fig. 1 discloses the system of transmitters and receivers) capable of executing retransmission of packet data when the packet data cannot be received correctly on a receiving side, said transmitting apparatus comprising: changing a transmission parameter in accordance with the conditions of the propagation path (Paragraph 24 indicates changes in path condition are taken in consideration when determining transmission rate); and a obtaining a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter, wherein each of the plurality of the divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3

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illustrates resending packet 5 divided into three smaller portions. Paragraph 21 indicates the divided packets retain the same sequence number.)

12. In regards to claim 49, Inoue discloses a receiving apparatus (fig. 1 discloses the system of transmitters and receivers) which receives packet data which is retransmitted from a transmitter when the packet data cannot be received correctly by the receiving apparatus, said receiving apparatus comprising: a receiver which receives from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly, wherein each of the plurality of divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3 illustrates resending packet 5 divided into three smaller portions. Paragraph 21 indicates the divided packets retain the same sequence number.); and receiving data processing unit which conducts receiving processing by using the number information included in each of the plurality of divided packet data (Paragraph 87 indicates that after it is determined all portion of the packet have been receiving processing continues as normal.)

13. In regards to claim 51, Inoue discloses a receiving method in a receiving apparatus (fig. 1 discloses the system of transmitters and receivers) which receives packet data which is retransmitted from a transmitter when the packet data cannot be received correctly by the receiving apparatus, said receiving apparatus comprising: receiving from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly, wherein each of the plurality of divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3 illustrates resending packet 5 divided into three smaller

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portions. Paragraph 21 indicates the divided packets retain the same sequence number.); and conducting receiving processing by using the number information included in each of the plurality of divided packet data (Paragraph 87 indicates that after it is determined all portion of the packet have been receiving processing continues as normal.)

14. In regards to claim 53, Inoue discloses a mobile communication system including a receiving apparatus and a transmitting apparatus (fig. 1 discloses the system of transmitters and receivers) capable of executing retransmission of packet data when the packet data cannot be received correctly on a receiving side, said transmitting apparatus comprising: a transmission parameter controller which changes a transmission parameter in accordance with the conditions of the propagation path (Paragraph 24 indicates changes in path condition are taken in consideration when determining transmission rate); and a controller which obtains a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter, wherein each of the plurality of the divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3 illustrates resending packet 5 divided into three smaller portions. Paragraph 21 indicates the divided packets retain the same sequence number.) a receiver which receives from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly, wherein each of the plurality of divided packet data includes same number information as number information of the packet data which has been transmitted (fig. 3 illustrates resending packet 5 divided into three smaller portions. Paragraph 21 indicates the divided packets retain the same sequence number.);

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and receiving data processing unit which conducts receiving processing by using the number information included in each of the plurality of divided packet data (Paragraph 87 indicates that after it is determined all portion of the packet have been receiving processing continues as normal.)

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 15, 16, 18-21, 23, 24, 35, 36, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al. (US 7,212,532) in view of Rathonyi et al. (US 6,359,877).

17. In regards to claim 15 McFarland discloses an apparatus with receiving means (col. 2 lines 61 and 62); buffer means (col. 2 line 60); combining means and extracting means (col. 3 lines 47-51 determine the portion(s) that has not been received correctly. Col. 4 lines 14-17 retransmit the portion. Col. 4 lines 27-31 indicate that the previously received correct packets are combined with the newly received retransmitted packets to form a complete file.) Figure 2 step 24c illustrates data cutting. If the whole file was not received the offset, i.e. where to start cutting, and the length, i.e. where to stop cutting are determined. McFarland does not disclose comparing a first parameter and a second parameter and determining if retransmit conditions are inferior.

Rathonyi discloses comparing the original data rate with the currently available data rate. If the previous packet will not fit within the new parameters, i.e. the retransmit conditions are inferior now because only smaller packets can be sent, the packet is cut into multiple packets, each of a length that will fit within the new parameters (col. 9 line 62 – col. 10 line 3).

It would have been obvious to one of ordinary skill in the art to divide packets as taught by Rathonyi because doing so increases efficient use of resources and maximizes throughput, as disclosed in column 6 lines 35-40.

18. In regards to claim 16 McFarland discloses claim 15, but not decoding the combined data, determining if there is an error; and storing the combined data in a buffer if there is an error.

Rathonyi discloses decoding combined data; determining if there is an error; and storing erroneous data in a buffer in figures 2C and 2D.

It would have been obvious to one of ordinary skill in the art to decode the data, as taught by Rathonyi, because doing so increases efficient use of resources and maximizes throughput, as disclosed in column 6 lines 35-40 in Rathonyi.

19. In regards to claim 18, McFarland discloses discriminating data length (fig. 2 step 24c) and extracting and inputting to combining means a portion of the data having a length equal to said data length (fig. 2. step 24c; col. 3 lines 47-51), but does not disclose determining the data length based upon the first parameter.

Rathonyi discloses comparing the original data rate with the currently available data rate. If the previous packet will not fit within the new parameters the packet is cut into multiple packets, each of a length that will fit within the new parameters (col. 9 line 62 – col. 10 line 3).

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It would have been obvious to one of ordinary skill in the art to divide packets as taught by Rathonyi because doing so increases efficient use of resources and maximizes throughput, as disclosed in column 6 lines 35-40.

20. In regards to claim 19, Rathonyi discloses extracting a plurality of packets in column 10 lines 18-30.

21. Claims 20, 21, 23, 24 and 35, 36, 38, 39 are rejected upon the same grounds as claims 15, 16, 18, 19 respectively.

22. Claims 46, 50, 52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rathonyi et al. (US 6,359,877) in view of McFarland et al. (US 7,212,532).

23. In regards to claim 46, Rathonyi discloses a transmitting apparatus (fig. 2a illustrates various apparatus such as mobile phones and a BSC each of which can be both a transmitter and a receiver according to the invention) capable of executing retransmission of packet data when the packet data cannot be received correctly on a receiving side, said transmitting apparatus comprising: a transmission parameter controller which changes a transmission parameter in accordance with conditions of the propagation path (fig. 3e step 300 adapts the transmission rate in accordance with path conditions); and a controller which obtains a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter (fig. 3e step 320 adapts the packet size, either combining or dividing the retransmission data in accordance with the determined rate), wherein number information is transmitted to the receiving side (figs

3a and 3b illustrate possible sequence numbering schemes). Rathonyi does not disclose data length is also transmitted to the receiving side.

McFarland discloses indicating data length in figure 5 element 56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include data length, as taught by McFarland in the data retransmission taught by Rathonyi because including the data length allows confirmation of the amount of data which needs to be retransmitted (McFarland col. 4 lines 20-23).

24. In regards to claim 50, Rathonyi discloses a receiving apparatus (fig. 2a illustrates various apparatus such as mobile phones and a BSC each of which can be both a transmitter and a receiver according to the invention) which receives packet data which is retransmitted from a transmitter when the packet data cannot be received correctly by the receiving apparatus, said receiving apparatus comprising: a receiver which receives from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly (fig. 3e step 320 adapts the packet size, either combining or dividing the retransmission data in accordance with the determined rate), wherein the receiver also receives number information with respect to each of the plurality of divided packet data (figs 3a and 3b illustrate possible sequence numbering schemes); and receiving data processing unit which conducts receiving process by using the number information. Rathonyi does not disclose data length is also received and used for processing.

McFarland discloses indicating data length in figure 5 element 56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include data length, as taught by McFarland in the data retransmission taught by Rathonyi

because including the data length allows confirmation of the amount of data which needs to be retransmitted (McFarland col. 4 lines 20-23).

25. In regards to claim 52, Rathonyi discloses a receiving method in a receiving apparatus (fig. 2a illustrates various apparatus such as mobile phones and a BSC each of which can be both a transmitter and a receiver according to the invention) which receives packet data which is retransmitted from a transmitter when the packet data cannot be received correctly by the receiving apparatus, said receiving apparatus comprising: receiving from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly (fig. 3e step 320 adapts the packet size, either combining or dividing the retransmission data in accordance with the determined rate), wherein the receiver also receives number information with respect to each of the plurality of divided packet data (figs 3a and 3b illustrate possible sequence numbering schemes); and conducting receiving process by using the number information. Rathonyi does not disclose data length is also received and used for processing.

McFarland discloses indicating data length in figure 5 element 56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include data length, as taught by McFarland in the data retransmission taught by Rathonyi because including the data length allows confirmation of the amount of data which needs to be retransmitted (McFarland col. 4 lines 20-23).

26. In regards to claim 54, Rathonyi discloses a mobile communication system including a receiving apparatus and a transmitting apparatus (fig. 2a illustrates various apparatus such as mobile phones and a BSC each of which can be both a transmitter and a receiver according to the

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invention) capable of executing retransmission of packet data when the packet data cannot be received correctly by the receiving apparatus, said mobile communication system comprising: a transmission parameter controller which changes a transmission parameter in accordance with conditions of the propagation path (fig. 3e step 300 adapts the transmission rate in accordance with path conditions); and a controller which obtains a plurality of divided packet data by dividing packet data which has been transmitted and conducts retransmission of the plurality of divided packet data respectively based on the transmission parameter (fig. 3e step 320 adapts the packet size, either combining or dividing the retransmission data in accordance with the determined rate), wherein number information is transmitted to the receiving side (figs 3a and 3b illustrate possible sequence numbering schemes). a receiver which receives from the transmitter a plurality of divided packet data which are obtained by dividing packet data which has been transmitted to the receiving apparatus and not received correctly (fig. 3e step 320 adapts the packet size, either combining or dividing the retransmission data in accordance with the determined rate), wherein the receiver also receives number information with respect to each of the plurality of divided packet data (figs 3a and 3b illustrate possible sequence numbering schemes); and receiving data processing unit which conducts receiving process by using the number information. Rathonyi does not disclose data length is also transmitted to the receiving side and used for processing.

McFarland discloses indicating data length in figure 5 element 56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include data length, as taught by McFarland in the data retransmission taught by Rathonyi

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because including the data length allows confirmation of the amount of data which needs to be retransmitted (McFarland col. 4 lines 20-23).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KERRI M. ROSE whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung MOE can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kerri M Rose/
Examiner, Art Unit 2616

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2616

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